

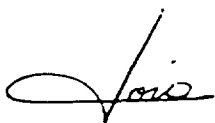
June 11, 1993

TO: MANUFACTURED GAS PLANT SITE CONTACTS
SPECIAL WASTE TASK FORCE--MGP GROUP
REGULATORY RESPONSE COMMITTEE--ENVIRONMENTAL AFFAIRS
ENVIRONMENTAL MATTERS COMMITTEE

RE: Manufactured Gas Plant Remediation Strategy

Attached for your information is the Edison Electric Institute (EEI) MGP Site Remediation Strategy document, recently approved by EPA's Office of Solid Waste. The attached letter from EEI summarizes its history and use.

Sincerely,



Lori S. Traweck
Director, Engineering Services

LST:gm

Enc.

cc: Kevin Belford
Mary Delaney
Deborah Estes
Jon Gallinger
Bob Gants
Phyllis Levine



EDISON ELECTRIC
INSTITUTE

60th Anniversary 1933-1993

MEMORANDUM

TO: EEI Member Company Representatives

FROM: Joseph E. Shefchek *JES* Chairman, EEI Manufactured Gas Plant
Subcommittee

SUBJECT: **Manufactured Gas Plant Remediation Strategy**

DATE: June 1993

I am happy to report to you that the Director of EPA's Office of Solid Waste, Sylvia Lowrance, has approved the EEI Manufactured Gas Plant (MGP) Site Remediation Strategy Document and has transmitted it together with her approval letter to EPA Regional Offices. A copy of the EEI document and EPA's letter is enclosed.

With this letter in hand, electric utilities are now in a position to represent to state agencies or to EPA regions that EPA headquarters has agreed with our strategy for burning MGP remediation wastes with coal in utility boilers and has found it to be consistent with current EPA RCRA regulatory requirements.

This innovative remediation strategy for cleaning up former MGP sites was developed by the EEI MGP Subcommittee and Task Force in consultation with EPA management and staff. It will allow many coal-burning utilities to dispose of MGP remediation wastes in a proven environmentally sound manner without the burdens of EPA's hazardous waste regulatory program and the high cost of commercial hazardous waste incineration services.

As you know, EPA expanded its hazardous waste toxicity characteristic in 1990 to include such organic constituents as benzene. At the time, MGP wastes were exempt from all hazardous waste regulation, but in a separate policy change, EPA ruled that "historic wastes" (i.e., wastes that are no longer generated in industrial processes, but are generated during the remediation of old disposal sites) no longer would qualify for that exemption. Since MGP

wastes may contain benzene, some MGP wastes generated during such cleanup activities could be classified as hazardous waste and thus MGP site cleanups may become subject to EPA's costly and burdensome RCRA hazardous waste permit program.

So long as these wastes were not classified as hazardous waste, there was no regulatory obstacle to burning them along with coal in a utility's high efficiency boiler. Both EPA and the utility industry considered this combustion option to be environmentally safe, and the industry recognized that most alternative remedial options were less environmentally certain and far more costly. After 1990, the possibility that some of these wastes would be regulated as hazardous waste threatened the continued viability of the utility boiler combustion option.

The MGP Subcommittee was concerned that application of the RCRA hazardous waste regulatory program to MGP site cleanups would sharply increase the cost of site remediation, significantly complicate and retard the implementation of remediation options and curtail selection of innovative remediation technologies due to the prolonged and uncertain process of obtaining RCRA permits.

The EEl MGP Subcommittee initiated discussions with EPA management to develop a strategy that would allow continued burning of these remediation wastes in utility boilers in a manner that would avoid the burdens and cost of the RCRA hazardous waste permit program. These discussions led to the development of the strategy document that received EPA approval under which any MGP waste that exhibited a hazardous characteristic at the time of excavation would be treated in tanks, containers or containment buildings to render the waste nonhazardous before it leaves the MGP site. **THUS, ONLY NONHAZARDOUS MGP WASTE WILL BE BURNED IN UTILITY BOILERS.** No RCRA hazardous waste permit is required for the combustion of nonhazardous waste.

The MGP Subcommittee estimates that the alternative of incinerating MGP wastes in a commercial hazardous waste incinerator would cost from five to 20 times more than burning the material with coal in a utility boiler. Midwest Power Systems of Des Moines, Iowa, has successfully employed this strategy in one of its coal-fired boilers near Sioux City, and the Wisconsin Power & Light and New York State Electric & Gas Companies are considering the option. All three companies are active members of the Subcommittee and have been

EEI Member Company Representatives
June 1993
Page 3

instrumental in developing this strategy.

I want to thank everyone on the Subcommittee and Task Force who diligently assisted us in formulating and completing this document. Their commitment to this project has benefitted the entire industry.

If you have any questions on the EPA letter or on implementing the strategy, please call Rich Bozek, EEI (202-508-5641) or Bill Weissman, Piper & Marbury (202-861-3878).

JS:rb

Enclosures

MANUFACTURED GAS PLANT SITE REMEDIATION STRATEGY

Prepared by
the

EDISON ELECTRIC INSTITUTE
MANUFACTURED GAS PLANT
SUBCOMMITTEE

April 1993

EEI EDISON ELECTRIC
INSTITUTE

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MGP SITE REMEDIATION STRATEGY

1. Introduction.

The manufactured gas industry operated during the period from the early 1800s until the mid-1950s. An illustration of a typical manufactured gas plant (MGP) that operated during that period is shown in Figure 1. Included in this illustration are several key structures including the gas generator house, the gas purifier boxes, the gas relief holder, the product gas storage holder, the tar separator and the tar well. These structures were central to the production, purification and storage of the manufactured gas and to the management of the by-product tar and process cooling waters.

There are in excess of 1500 historic MGP sites and a substantial number of these sites will undergo assessment in the near future. The purpose of this document is to provide guidance to facilitate remediation activities involving excavated solid materials generated at these historic MGP sites in a manner consistent with RCRA regulations currently extant. Thus, for example, to the extent these solid materials are classified as hazardous wastes, no land disposal restrictions ("LDRs") currently apply because LDRs have not yet been promulgated for these wastes. Future EPA rulemakings could affect the way cleanup and disposal activities at MGP sites are regulated.

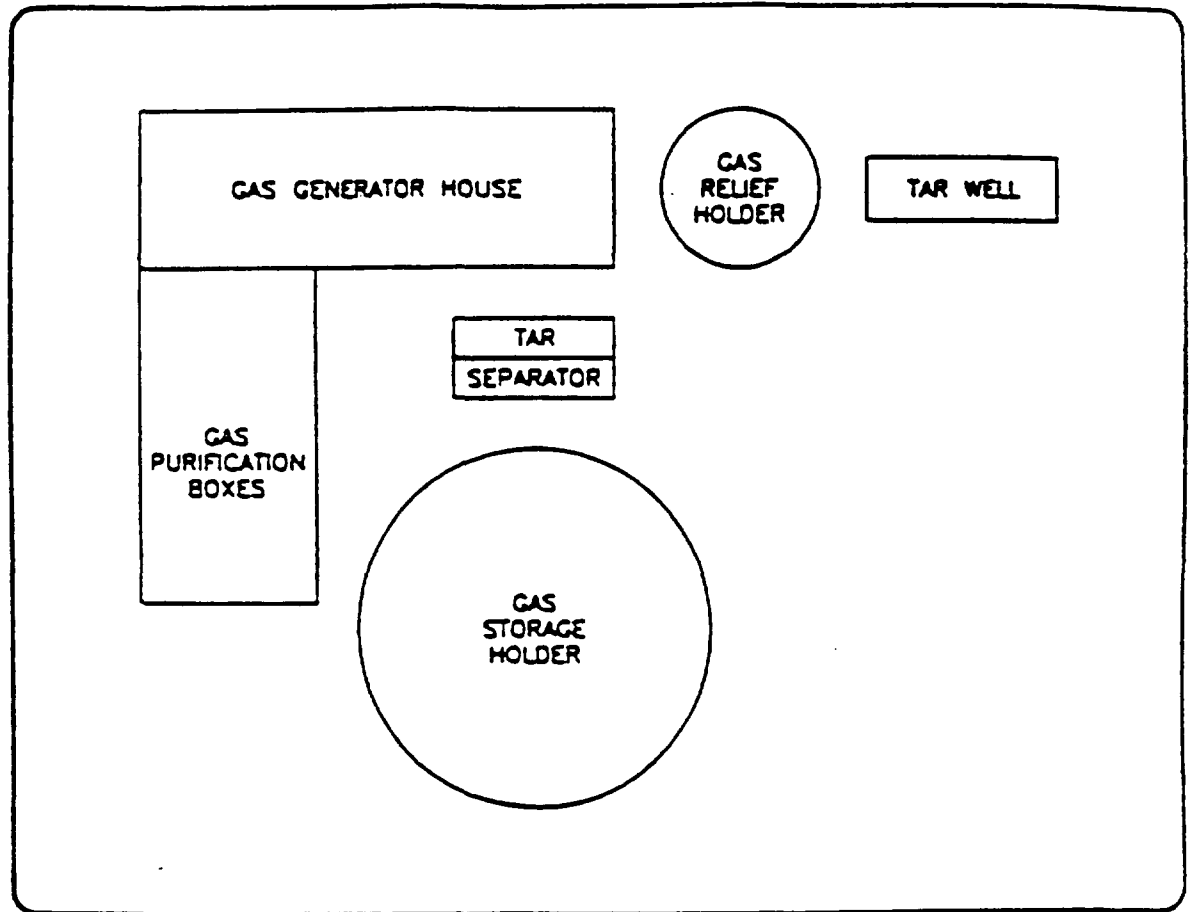
This strategy document will address activities insofar as some of the excavated solid materials may be characterized as hazardous wastes under the Resource Conservation & Recovery Act ("RCRA") and hence may be subject to regulation under Subtitle C of RCRA. The on-site activities are:

- Site characterization -- the assessment of in situ MGP site materials (e.g., sludges, coal tar contaminated soils and sediments) to be excavated in order to determine appropriate materials handling practices and procedures;
- Excavation of materials -- the generation of wastes subject to regulation under RCRA; and
- Accumulation and treatment of excavated wastes in 90-day units excluded from RCRA permit requirements.

In addition, the document will address the off-site transportation of any excavated waste that may remain subject to Subtitle C regulation when it leaves the site of generation. It will not address other site remediation issues at this time. The utility company that has been identified as an entity that may be liable for addressing environmental contamination at the site and for undertaking clean-up activity will be referred to herein either as the "Company" or as the "Generator" of the waste removed from the ground. References in this document to activities taken by a Company may be deemed to include contractors or other Company representatives.

FIGURE 1

PLAN VIEW OF MANUFACTURED GAS PLANT DURING FACILITY OPERATION



II. Purpose of the Strategy Document.

This strategy document is intended to facilitate responsible parties undertaking the source removal of heavily contaminated organic residues (i.e., coal tars) and contaminated soils at historic MGP sites in a manner that is consistent with the RCRA hazardous waste program. This strategy document does not address other remedial actions such as groundwater remediation. To the extent required by existing federal or state regulatory requirements, all removal actions of MGP site contaminated material that exhibits hazardous characteristics must be performed with the oversight of appropriate regulatory agencies. To that end, this document sets forth management strategies consistent with the Federal RCRA regulations that may be used at MGP sites where excavation of waste that is potentially hazardous is expected to occur. As discussed more fully below, this document sets forth procedures under which generators of any hazardous MGP site remediation wastes may manage these wastes in on-site 90-day accumulation units pursuant to 40 C.F.R. § 262.34. If within the 90-day period contemplated by § 262.34 these characteristically hazardous wastes are treated and thereby rendered nonhazardous, they would cease to be subject to regulation under Subtitle C of RCRA and there would be no regulatory barrier under Subtitle C of RCRA for the burning of these materials in utility boilers or similar high efficiency combustion units. The recent decision of the U.S. Court of Appeals in Chemical Waste Management v. EPA, 976 F.2d 2 (D.C. Cir. 1992) calls into question EPA's rules regarding application of LDR standards to wastes which exhibited a hazardous characteristic at the point of generation, but no longer exhibit the characteristic. The effects of this ruling are still under consideration at EPA, and may require reconsideration of this remediation approach after LDRs become applicable to MGP wastes. These materials would then be subject only to regulatory requirements applicable to nonhazardous solid wastes or to nonhazardous waste-derived fuels. If the waste cannot be treated within the 90 days, generators must request an extension from the Regional Administrator or will be required to obtain a permit.

It should also be made clear that this document applies only to the management of excavated solid materials that exhibit a hazardous characteristic. The management strategy outlined here does not apply to any listed hazardous wastes that may be excavated from a historic MGP site. The determination of whether listed hazardous wastes are present is to be based on available site information or records, such as manifests, storage records and vouchers, about the source of contaminants, as described by EPA, but in the absence of such information, the Company may assume that no listed hazardous wastes are present. See 53 Fed. Reg. 51394, 51444 (Dec. 21, 1988); 55 Fed. Reg. 8666, 8763 (Mar. 8, 1990). The Company is expected to make a reasonable inquiry into whether listed wastes are present at the site. Where required by applicable federal or state regulatory requirements, this determination is to be made in consultation with overseeing agencies. This strategy also does not apply to materials at an MGP site that may contain regulated levels of polychlorinated biphenyls ("PCBs").

It should be understood that this document is not a detailed procedural manual for dealing with federal, state or local regulatory agencies, but constitutes a general strategy for remediation of historic MGP sites in a manner consistent with RCRA

regulations. Except for RCRA, it does not evaluate the remedy for consistency with the Clean Air Act or other statutes, and it does not address other possible remedies that may be more appropriate to the characteristics of a particular site. As a strategy for facilitating voluntary remediation activities, it should not be regarded as supplanting the Superfund process for remedy selection or creating a presumption in favor of this strategy where it may not be appropriate to the characteristics of the site.

III. Characterization of the Excavation Zones.

Since the wastes at these historic MGP sites generally were disposed of before the enactment of RCRA and thus before the November 19, 1980 effective date of EPA's hazardous waste treatment, storage, and disposal facility regulations, the wastes currently at these sites have not been subject to RCRA regulation. 53 Fed. Reg. at 51444; 55 Fed. Reg. at 8762-63. However, if these wastes are excavated and removed from the disposal unit (e.g., the tar separator or well), or if they are managed in tanks, containers, or containment buildings, they are deemed to have been generated and become subject to the requirements of Part 262 of EPA's rules.

Most MGP sites, today, have had the primary gas generation and purification structures razed. Occasionally, one or more gas holders may remain standing although these too have often been demolished to ground level. As a result of the plant operations and these demolition activities, these sites may contain areas where coal tars have accumulated or where coal tars were stored. These locations typically include, but are not limited to, the subsurface portions of gas relief holders that were also known as "pit holders" and the remaining subsurface structures associated with tar separators and tar wells. The tar separators were rectangular wood or concrete basins that were used to separate the tar from the recirculating process cooling waters. The tar wells were similar in shape and construction to the tar separators but were used to store tar prior to its dewatering and sale. These areas of more highly concentrated coal tar contamination are the areas that may pose a potential risk to groundwater and are often targeted for source removal actions. These areas also provide the greatest potential to exhibit the toxicity characteristic for benzene. Figure 2 depicts a plan and elevation view of an MGP site today and the areas that are commonly found and designated as excavation areas. The areas associated with the tar separators and tar wells generally consist of layers of residual coal tar which remained in the structures at the time the plant was closed and which were covered with soil during demolition activities. This contamination is typically located in the shallow subsurface zones. The "pit holder" may be set deeper in the subsurface and may contain larger quantities of coal tar which have been mixed with fill, including demolition debris and soil. The structure of the subsurface holder is often intact, preventing movement of the coal tar and contaminated fill.

As shown in Figure 2, the nature of these areas (e.g., depth, type of contaminated media) dictates the use of different excavation schemes. For example, it is likely that the excavation of the more shallow tar separator and tar well will include the subsurface structures as well as the coal tar and contaminated soil. On the other

hand, excavation of the deeper pit holder may be limited to the removal of the contents of the subsurface structure. Sampling should be designed to develop a three dimensional profile of MGP waste distribution (see Section XI). These profiles will be used to develop excavation work plans and to identify representative samples of the zones of excavation.

Issues to be addressed by the Company:

- (1) delineation of excavation zones containing wastes that will require 90-day accumulation management (i.e., those portions of the area to be excavated where there is a reasonable probability that excavated waste will exhibit a hazardous characteristic and therefore will require compliance with Subtitle C regulations).
- (2) determination of blending ratios and mixing material to be used during 90-day accumulation.
- (3) Establishment of field analysis techniques for the rapid determination of TC hazardous characteristics of concern (e.g., benzene). These field analysis techniques, which include methods such as manual extraction of soil and groundwater samples followed by gas chromatographic analysis of the extracts in the field, permit a rapid determination of the chemical composition of the sample. These rapid determinations are required during the excavation of the source areas and during the subsequent handling and blending processes since they will expedite the field activities and minimize the overall time required on-site. The time on-site is a critical factor since many MGP sites are located in urban or residential settings and it is imperative that the inconvenience and potential disruption caused by the field activities be minimized to the greatest extent possible.

The burden of ensuring that all excavated solid materials are properly managed on the site and that no hazardous waste leaves the site misclassified is borne by the Company. Therefore, it is critical that the field analysis method provides consistent results with the applicable testing protocols for identifying characteristic hazardous waste. If the materials generated include hazardous wastes, the generator must comply with Part 262 of EPA's rules including the requirement to obtain an EPA identification number.

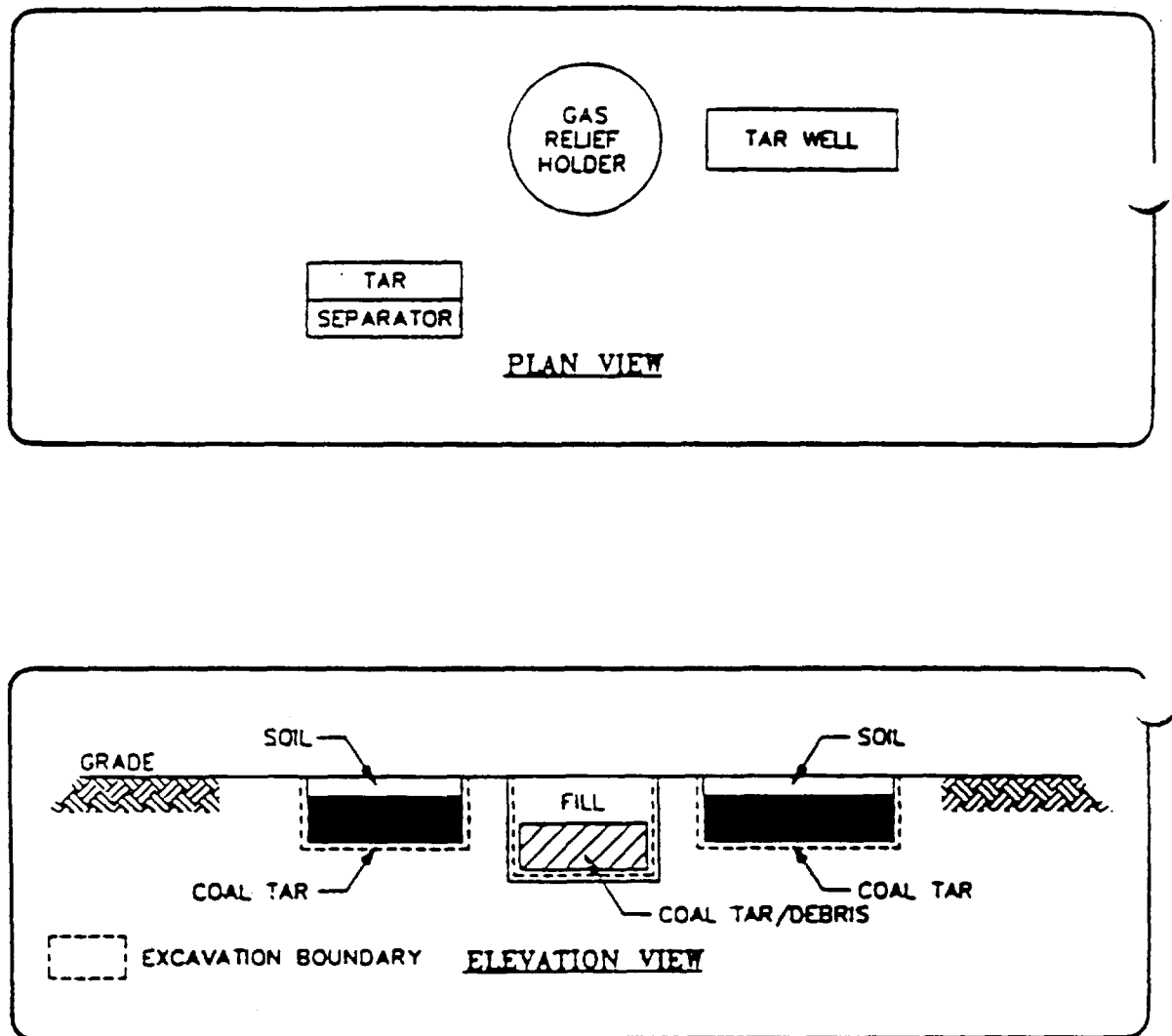
IV. Development of Excavation Design.

Excavation design will be developed by the Company using accepted engineering and construction practices (see Section V). Issues to be addressed by the Company as part of the development of the excavation design include:

- (1) determination of the 3-dimensional excavation boundaries.
- (2) identification and preparation of the material processing area.
- (3) identification and preparation of the staging area.

FIGURE 2

**PLAN AND ELEVATION VIEW OF SUBSURFACE STRUCTURES
AND HOT SPOTS OF CONTAMINATION AT TYPICAL MGP SITE**



- (4) identification and consideration of geotechnical conditions.
- (5) determination of whether a vertical barrier is needed for structural support and/or groundwater control.
- (6) selection of excavation equipment.
- (7) determination of health and safety procedures.

V. Excavation Procedures.

Contaminated soils should be excavated by the Company (or its representative) using appropriate equipment such as screw augers, back hoe buckets, clamshell, or other similar equipment. When practical to do so, large pieces of demolition debris may be segregated in the excavation pit and handled separately from the soils. Experience at MGP sites indicates that the impact of air emissions and odor from the excavations can be effectively managed by employing excavation practices that minimize the release of gaseous contaminants and by utilizing air monitoring and respiratory protection equipment. Excavation practices to minimize air emissions will include the pacing of the excavation activities and/or the placement of additives or absorbents such as coal fines, wood chips, synthetic foams, or other non-hazardous materials into the excavation. Concurrently, the air space in and around the excavation should be monitored using real-time contaminant detection instruments (e.g., organic vapor analyzers). The site health and safety plan will identify predetermined concentration limits which, if exceeded at any time, would require the use of air respiratory equipment by site workers. Air monitoring should be conducted at predetermined zones around the perimeter of the excavation to ensure that the excavation activity is protective of human health and the environment.

Should excavation occur in the saturated zone, groundwater management may be required. The management steps may include isolation and dewatering of the zone of excavation and treatment of the wastewaters that are generated. Isolation of the zone of excavation may be accomplished using sheet piles or other barriers. In some instances, the historic structures themselves may serve as an adequate barrier. This is especially true for the subsurface structures associated with the pit holders. These barriers can prevent cross-contamination from occurring due to contaminant migration into or out of the excavation zone. If dewatering is required for the excavation, it should be achieved using conventional construction techniques (e.g., recovery wells or collection trenches set within the isolated zone of excavation). Wastewaters generated in the process of dewatering that exhibit a hazardous characteristic must be managed as a hazardous waste. Additional remedial actions may be required for the site groundwaters; however, these actions are beyond the scope of this document.

VI. Screening.

Material removed from the excavation can be handled in several ways. If it is classified as hazardous pursuant to 40 C.F.R. § 262.11 and managed offsite, it is

subject to all of the applicable requirements of Subtitle C of RCRA. If it is managed on-site, it can be processed through either a stationary or vibrating screen if large items of debris are present. The Company will determine whether the waste materials that have been screened out are hazardous and require management under Subtitle C of RCRA. Waste that is not amenable to screening (i.e., wet clay soils, viscous sludges) may be dewatered and/or enhanced with suitable material to facilitate material handling in a 90-day accumulation unit. Once the material can be handled it may then be screened.

The screen may be angled to deflect the larger items (i.e., construction debris, wood, concrete) that cannot be segregated in the excavation. Cobbles, bricks and other similar size materials may be conveyed through the screen along with the contaminated soil. If the screened out materials are determined to be hazardous, they will be conveyed to a 90-day accumulation unit (see Section VII). Plans will be prepared to prevent or contain any spillage which may occur during the material handling process.

VII. Accumulation/Blending Stage.

Following segregation from the larger items of debris, the screened material will be accumulated or blended in a 90-day accumulation unit. EPA has interpreted the term "accumulate" in § 262.34 to include both storage and treatment. See 55 Fed. Reg. 30798, 30807 (July 27, 1990); 51 Fed. Reg. 10146, 10168 (March 24, 1986). Under current regulations (40 C.F.R. § 262.34(a)), three units are eligible for this purpose. Two units are tanks meeting the standards of 40 C.F.R. Part 265, Subpart J, and containers meeting the standards of 40 C.F.R. Part 265, Subpart I. As long as treatment activities are conducted in units meeting the definitions of tank and container, and the time limitations and requirements of § 262.34 are met (including contingency planning requirements), treatment activities may be conducted at the site of generation without a permit.

EPA has defined "container" and "tank" in 40 C.F.R. § 260.10 as follows:

- Tank: A tank is a "stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support."
- Container: A container is "any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled."

This definition of container includes a wide range of items such as cans, drums, boxes, roll-off boxes, container trucks, tanker trucks, rail box-cars, and rail container cars. Some portable process-type units, such as mixers, could also be included within this definition.

EPA recently added a third unit as an eligible 90-day accumulation unit that may facilitate accumulation and blending at MGP sites. This new unit, called a containment building, generally consists of a concrete pad or a similar floor inside a building. According to EPA, this

unit must, among other things, be completely enclosed and have self-supporting walls, a primary barrier, designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment in the unit, a secondary containment system (unless the unit manages non-liquid wastes only or has obtained a variance from the secondary containment standard), a liquid collection system and controls for fugitive dust. The floors, the walls, and roof of the unit must be constructed of man-made materials with sufficient structural strength to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit. The unit also must be designed and operated to prevent tracking of materials out of the unit.

57 Fed. Reg. 37194, 37212 (Aug. 18, 1992). See generally 40 C.F.R. § 262.34(a)(1)(iv); 40 C.F.R. §§ 264.1100-.1102; 40 C.F.R. §§ 265.1100-.1102; 57 Fed. Reg. at 37211-18.

The time limitations of § 262.34(a) require that all storage and treatment be achieved in 90 days or less. This limitation applies unless an extension of 30 additional days is obtained pursuant to 40 C.F.R. § 262.34(b) or the generator qualifies as a conditionally exempt small quantity generator under 40 C.F.R. § 261.5.

The blending material may consist of a relatively dry, combustible medium such as coal, coal fines, clean wood chips, corn cobs, less contaminated soil or other suitable material. Blending materials and blending ratios will be determined to ensure that the blended material does not exhibit a hazardous characteristic. Blending ratios will be established after a field testing process aimed at establishing a statistically valid worst-case ratio that will render nonhazardous the most concentrated sample of hazardous site remediation waste and therefore all less concentrated wastes. If the contents of the 90-day accumulation unit are determined not to exhibit a hazardous characteristic after blending, the material further processed on-site using the established blending ratio would no longer be subject to Federal regulation under Subtitle C of RCRA. Thus any crushing, further blending with coal, or other material or off-site transport for ultimate disposal would not be subject to the Federal hazardous waste regulation. Should the contents of the 90-day accumulation unit fail to be rendered nonhazardous, the waste must be managed as a hazardous waste in accordance with applicable state and federal regulations.

VIII. Nonhazardous Waste Storage.

Nonhazardous soils may be stored either off-site or on-site. Sound management practices should be followed for handling and storing nonhazardous soils (e.g. dust suppression, etc.). The storage area should be designed to control run-off, leachate generation, dust, etc. All soil storage must comply with any applicable local, state, and federal regulations.

IX. Transportation of MGP Waste to Off-Site Location.

Nonhazardous soils may either be transported off-site or may undergo further blending on-site with a fuel for purposes of utility boiler fuel preparation. If it becomes necessary to transport hazardous MGP waste off-site (e.g., either because site conditions preclude management of excavated wastes in 90-day accumulation units or because mixing activities in such units have not been successful in rendering the waste nonhazardous within the 90-day time period authorized by 40 C.F.R. § 262.34), the generator must comply with the requirements for off-site transportation of hazardous waste, including the manifest requirement in 40 C.F.R. § 262.20 et seq.

X. Utility Boiler Operation

There are no regulatory requirements under RCRA applicable to utility boilers that burn excavated solid materials from MGP sites as fuel so long as the materials do not exhibit a hazardous characteristic and do not contain a listed hazardous waste. The remedial strategy described in this document contemplates that only nonhazardous excavated materials will be burned in utility boilers along with fossil fuels.

Utility boilers that burn excavated materials may nevertheless be subject to state or Federal regulatory requirements under the Clean Air Act or other environmental statutes. Any required regulatory oversight or approvals will occur under those programs.

Boiler safety and operational issues are specific to the boiler design. Therefore, such issues should be addressed on a case-by-case basis by the Company prior to commencement of burning activities.

XI. Sampling and Analysis Strategy.

Sampling and characterization of the excavated solid material should occur at the four stages of the excavation activities addressed by this guidance:

- Characterizing the soil prior to excavation.
- Characterizing the excavated solid materials pursuant to RCRA generator requirements.
- Determining blending ratios that will ensure that the resulting mixture of excavated remediation material and blending material will not exhibit a hazardous characteristic.
- Confirming the nonhazardous status of mixed materials.

The Company's implementation of this sampling and analysis is intended to achieve the following objectives:

- (1) characterize MGP contaminated soils that are targeted for excavation and off-site disposal;
- (2) determine which portions of the soils targeted for excavation will require management in 90-day accumulation units (i.e., wastes that are known or determined by the generator to exhibit a hazardous characteristic or wastes for which a determination is not made but which the generator assumes require management under Subtitle C of RCRA);
- (3) develop a sampling protocol that statistically addresses the number of samples that have to be taken to establish the characteristic of the excavated waste (Chapter 9 of EPA's Manual "Test Methods for Evaluating Solid Waste," SW-846, may provide guidance in developing such a protocol). Caution should be taken when developing the sampling protocol because waste may not be homogeneous across the site; and
- (4) develop a sampling protocol that statistically determines that all wastes managed in 90-day accumulation units no longer exhibit any hazardous characteristics upon removal.

If an adequate database exists that accurately describes the current characteristics of the contaminated media at that site, it may be unnecessary to undertake an additional assessment of the waste characteristics within the excavation zone. However, in the absence of such a database and if the generator plans to manage any excavated materials under nonhazardous waste standards, in situ sampling will be necessary to ensure compliance with RCRA regulations and for excavation planning purposes.

Sampling activities should be designed to delineate the portions of the excavation zones that can be expected to generate MGP remediation waste that will require (or should be assumed to require) compliance with Subtitle C management standards. TCLP or total analysis methods should be employed to characterize the portions of the excavation zones potentially subject to Subtitle C standards. If the site manager elects to base his excavation zone characterization on total analysis, waste samples will be assumed to be nonhazardous due to toxicity if they exhibit statistically valid concentrations of TC parameters less than twenty times the regulatory levels that are presented in Table 1 of 40 C.F.R. § 261.24. See 53 Fed. Reg. at 51444 (Dec. 21, 1988). Recent site-specific research conducted by the Electric Power Research Institute indicates that multiples of 40 to 50 may be more appropriate in some instances. The multiple that is selected for a given site will be negotiated with appropriate overseeing agencies on a case-by-case basis using the multiple of 20 as a baseline and considering higher multiples, as appropriate, based upon actual waste characterization and leaching data. In all cases, the multiple will be chosen to ensure that the on-site management of the excavated materials will be consistent with RCRA regulations. If none of the excavated materials exhibits any RCRA hazardous characteristic, these materials may be managed as a nonhazardous waste. Any hazardous waste generated in such an excavation may be managed on-site in 90-day accumulation units authorized by 40 C.F.R. § 262.34.

Waste that is being managed in 90-day accumulation units may be periodically sampled by means of the surrogate analysis (e.g., total analyte method) to determine if the waste exhibits any toxic characteristic. When it is determined by the Company that a waste in a 90-day accumulation unit no longer exhibits any hazardous characteristic, the waste may be removed from the 90-day accumulation unit and may thereafter be managed as a nonhazardous waste (e.g., burning in a utility boiler). Statistically based sampling procedures will be used to determine whether MGP wastes exhibit any hazardous characteristics. The procedures should be documented in the site Sampling and Analysis Plan. See Section XII.2. This plan should be provided to the regulatory agency directing or providing regulatory oversight for the MGP remediation project. If this methodology indicates that the waste exhibits a hazardous characteristic and the generator does not qualify as a conditionally exempt small quantity generator, then the waste will be managed as a hazardous waste in 90-day accumulation units. If there is no indication that the waste is hazardous, the waste may be managed under any permissible regulatory category (e.g., nonhazardous solid waste, fuel supplement, etc.).

As sampling and analysis experience is acquired at these sites, it may be possible to construct a database from waste matrix information and site characterization data to correlate TC criteria and site specific waste characteristic analysis. Once such a database has been assembled, future Sampling and Analysis Plans may be developed, and to the extent required by federal or state regulation, should be submitted to the appropriate government agency.

XII. Controlling Plans for MGP Waste Excavations.

In addition to the foregoing, the remediation activities addressed by this strategy document may require development by the Company of a number of Remedial Design (RD) and Remedial Action (RA) Plans. Examples of such plans are described below and would control all source removal actions to be performed at the site and require any necessary approvals by agencies overseeing the site management.

1. Quality Assurance Project Plan.

A site-specific Quality Assurance Project Plan (QAPP) should be developed in accordance with applicable regulatory criteria. The purpose of this QAPP is to establish Quality Assurance (QA) standards applicable to the specific field and laboratory work to be performed. Documented conformance with these standards during the performance of the remedial action will produce scientifically defensible data which can be used throughout the remedial action and will assure that the objectives of the remedial action are met.

2. Sampling and Analysis Plan.

A site-specific Sampling and Analysis Plan (SAP) should be prepared that contains objectives, site background, evaluation of the zones to be excavated, and identifies chemical constituents of interest, sample types, statistical sampling approach, sampling locations and frequency, sample preparation, sample QA/QC, operations

plans for sampling, sampling personnel qualifications, decontamination procedures, and specifications for sampling procedures.

3. Health and Safety Plan.

A site-specific Health and Safety Plan (HSP) should be prepared in accordance with all applicable EPA and other safety regulations (e.g., OSHA regulations). Special emphasis should be given to safety concerns of non-remedial workers at the site and nearby residents. Specifically, the HSP should address air monitoring and odor control procedures that are protective of the on-site workers and general public.

4. Alternative Management Plan for Wastes Remaining in the Subtitle C Program.

A plan should be developed to manage any waste that is not rendered nonhazardous within 90 days (or any extension of the 90-day period granted by the Regional Administrator). These plans should provide for proper storage, transportation, and disposal/treatment of hazardous waste in accordance with Subtitle C of RCRA. If off-site transportation of hazardous waste becomes necessary, the requirements described in Section IX apply.

5. Recordkeeping.

All recordkeeping requirements applicable to generators (and, if necessary, to transporters) of hazardous waste should be complied with.




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 26 1993

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Remediation of Historic Manufactured Gas Plant Sites

FROM: Sylvia K. Lowrance, Director
Office of Solid Waste 

TO: Regional Waste Management Division Directors

Attached please find a document that describes a strategy for voluntary remediation of historic manufactured gas plant (MGP) sites. There are in excess of 1500 historic manufactured gas plant utilities. The utility industry is interested in initiating voluntary assessment and remediation of the sites. Last year, under the aegis of the Edison Electric Institute, the industry requested the Agency's assistance in clarifying the applicability of existing RCRA regulations to certain remediation activities and materials at these sites. At the direction of the Assistant Administrator, a group was established under the leadership of the Office of Solid Waste to work with Edison Electric Institute (EEI) to clarify the regulations and thereby facilitate early voluntary clean-up. The EPA working group included representatives from various Headquarters offices as well as Region VII, who has had extensive experience in addressing MGP sites.

The attached strategy document was developed by EEI for use by its member companies. Its purpose is to clarify the RCRA regulations and other requirements applicable to MGP sites. It has been reviewed and commented on by the EPA working group.

The strategy document consists of legal interpretations of EPA rules and regulations as well as technical and procedural guidance that either draws directly on published EPA guidance or constitutes EEI's best engineering or technical judgement based on their experience at MGP sites. OSW expects that the strategy would be implemented taking into account site-specific circumstances and that it would not necessarily be appropriate or practical at all sites. The strategy does not supersede existing regulations; it is not intended to be the presumptive remedy under CERCLA; nor can it serve as a shield against enforcement under RCRA or any other statute. Rather, it is intended to provide useful, practical advice on how to address materials at

these sites that may exhibit the RCRA characteristics.

It is my view that the strategy described in the document can be implemented in a fashion that is consistent with existing federal RCRA regulations and, thus, protective of human health and the environment. I encourage Regions and States to work with site owners in implementing the strategy, thus promoting early and voluntary clean-up.

The remediation strategy is based on the fact that contaminated soils generated at these sites are capable of being burned with coal and other fuel in high efficiency utility boilers. Prior to the burning of these materials in utility boilers, remediation waste that exhibits a hazardous characteristic will be rendered non-hazardous before it leaves the generation site. This may be accomplished without the delays caused by RCRA permitting through the use of 90-day tanks, containers, or containment buildings covered by 40 CFR Section 262.34(a). Under federal regulations, waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management of the waste, including the burning of such materials in utility boilers, no longer would be subject to Subtitle C of RCRA.

Contaminated soils addressed in this strategy are those that are former Bevill wastes and are hazardous under the characteristics. Land disposal restrictions do not currently apply to these wastes and therefore LDR compliance should not be an issue at this time. However, it should be noted that LDRs will be promulgated in the future. The recent "Third Third" court decision, however, may have an impact on the approach discussed in the strategy sometime in the future. In the development of strategies to conduct remediation activities, it would be appropriate to consider treatment in anticipation of future LDR requirements. I will keep the Regions informed as to the effects of this decision on all aspects of our program.

Throughout the document, reference is made to consultation with and obtaining approvals from appropriate governmental authorities. The assumption underlying the document is that the remediation activities are not being carried out under the Federal Corrective Action or Superfund program but that they are being voluntarily conducted with appropriate state and/or local oversight. The document is not intended to provide detailed procedural guidance on obtaining governmental approvals. And, as always, state requirements can be more stringent than their federal counterpart.

I view the attached remediation strategy as another step in the direction of achieving more risk-oriented and effective application of RCRA regulations to environmental clean-up

activities. As the Regional Offices gain experience working with these sites, I would appreciate hearing from you if the recommended strategy is helpful in expediting clean-up and if you encounter any problems that further or more specific guidance would alleviate.

If you have any questions about this strategy document, please call Ed Abrams, Chief, Listing Section at 202-260-4770, or David Bussard, Director, of the Characterization and Assessment Division at 202-260-4637.

Attachment

cc: OSW Division Directors
MGP workgroup